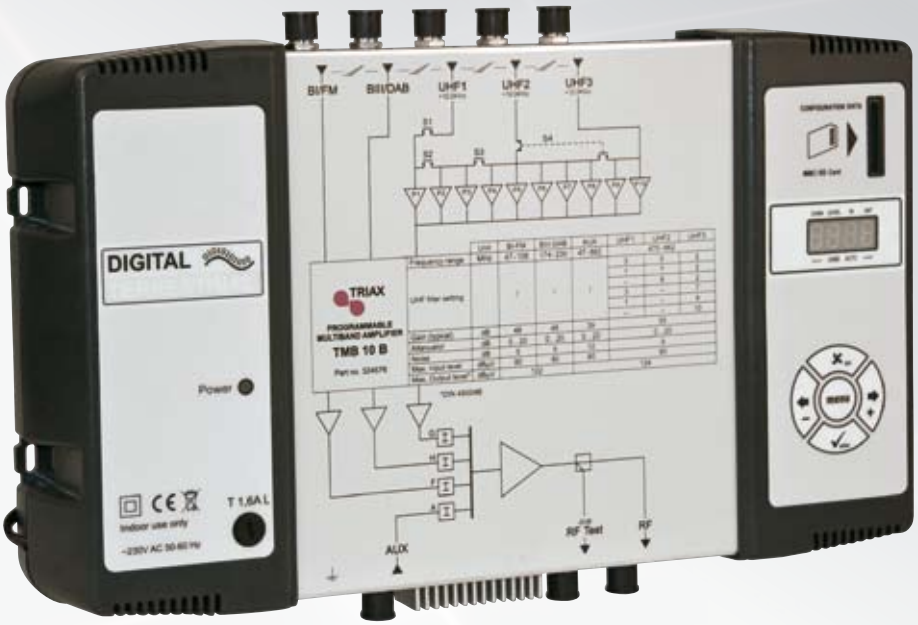
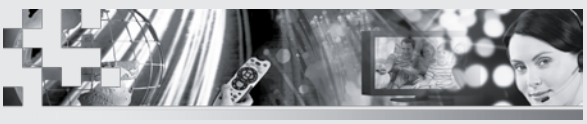


Programmable Multiband Amplifier

TMB 10A Ref.: 324575
TMB 10B Ref.: 324576
TMB 10S Ref.: 324577

GB | FR | ESP | SE | FI

Mounting instruction



TRIAX - your ultimate connection

TMB Programmable Multiband Amplifier

TMB 10A ▪ TMB 10B ▪ TMB 10S

GB

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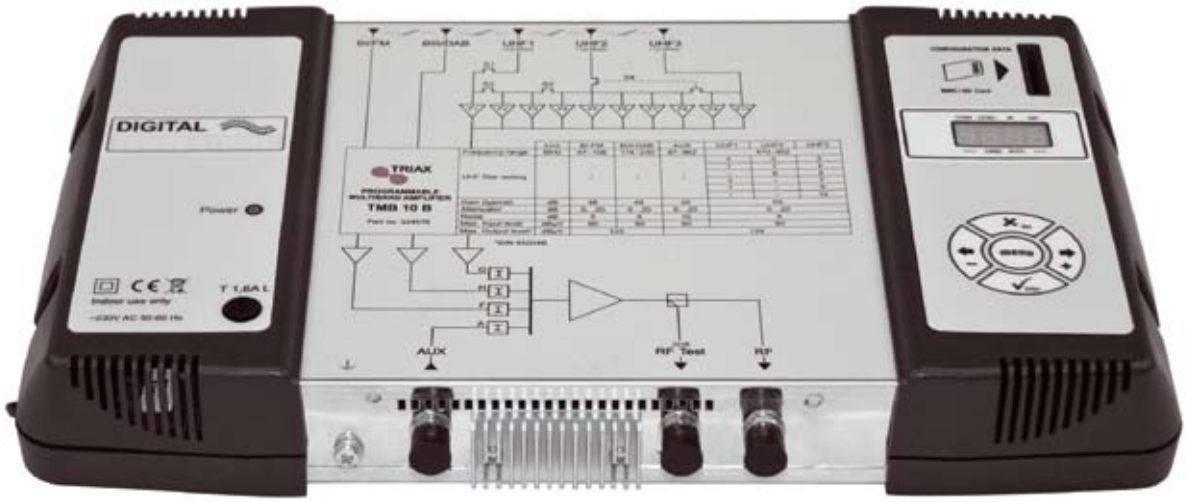
General information

The processing units in the **TMB10** range are used to selectively filter analogue and digital UHF channels. These units also couple and amplify VHF programmes according to the satellite band model (IF).
TMB10 units have one amplified wide band coupling input; 10 UHF filters, distributed over 3 inputs with programmable bandwidth from 1 to 6 channels (8 to 48 MHz), making it suitable for most situations.
An individual setting for each filter or frequency band, and automatic control of the UHF output level, for aligning service plan levels.

TMB-10A – Ref.: 324575
5 inputs: **BI - FM, BIII - DAB, AUX, UHF1, UHF2**
UHF Gain = 55 dB
BI - BIII Gain = 48 dB
AUX Gain = 39 dB
UHF output level = 124 dBµV (DIN 45004B)

TMB-10B – Ref.: 324576
6 inputs: **BI - FM, BIII - DAB, AUX, UHF1, UHF2, UHF3**
UHF Gain = 55 dB
BI - BIII Gain = 48 dB
AUX Gain = 39 dB
UHF output level = 124 dBµV (DIN 45004B)

TMB-10S – Ref.: 324577
8 inputs: **BI - FM, BIII - DAB, AUX, UHF1, UHF2, UHF3, 2 x SAT**
SAT Gain = 40 dB
UHF Gain = 48 dB
BI - BIII Gain = 43 dB
AUX Gain = 33 dB
UHF output level = 120 dBµV (DIN 45004B)
SAT output level = 120 dBµV (EN 50083-3)



Safety Instructions

Important: The unit should only be opened by a qualified technician.

- Disconnect the unit before carrying out any work on it, as some powered components are dangerous (risk of electrical shock).
- To maintain the temperature of the unit within its normal operating range, ensure the free circulation of air around the unit (avoid placing it in enclosed spaces). The ventilation grids must be free of any obstruction.
- Ensure that no liquids can penetrate inside the unit (splashes and/or run off).
- Do not install the unit in a damp place. If there are traces of condensation on the unit, do not use it until it has dried completely.
- The mains power cable and the HF connection cables must be in good condition and free to move (neither crushed nor obstructed).
- The mains plug, easily accessible for the technician, must be out of reach of children.

Earthing the unit

- Your aerial installation must comply with the requirements specified by the European provisions EN 50083 (conformity of collective installations) and EN 60065 (standards in force for electrical protection).

Replacing fuses

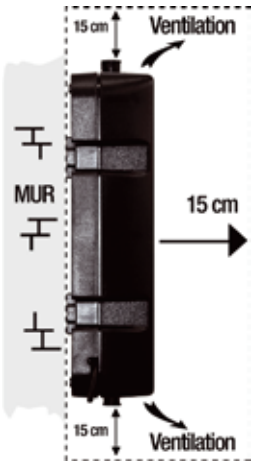
- Only a qualified technician can replace defective fuses.

Electromagnetic compatibility (EMC)

- Ensure that the screws on the box are properly tightened.
- Cables and connection terminals should show no signs of rust.

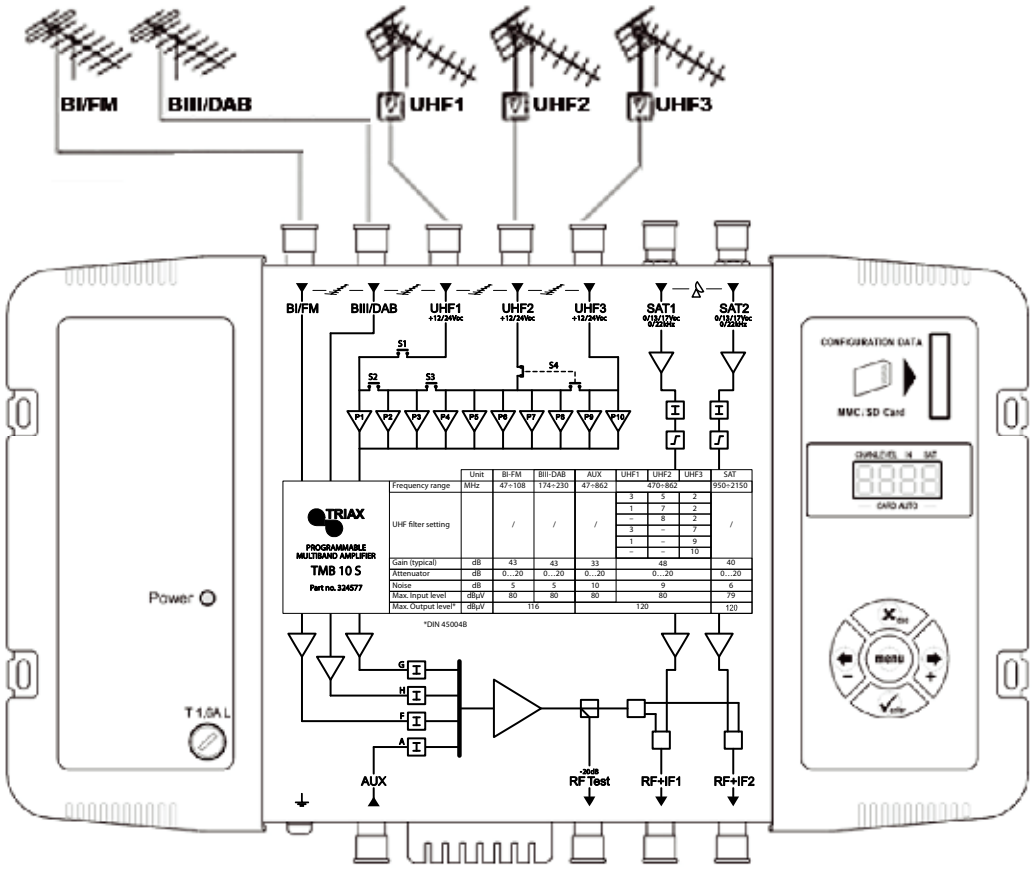
Installing the unit

We recommend you install the unit in a sufficiently ventilated place. Natural ventilation must be able to occur through the ventilation grids; leave a minimum space of 15 cm around the unit to ensure maximum ventilation.
When installing or cabling the unit, **we recommend you disconnect the mains power cable.**



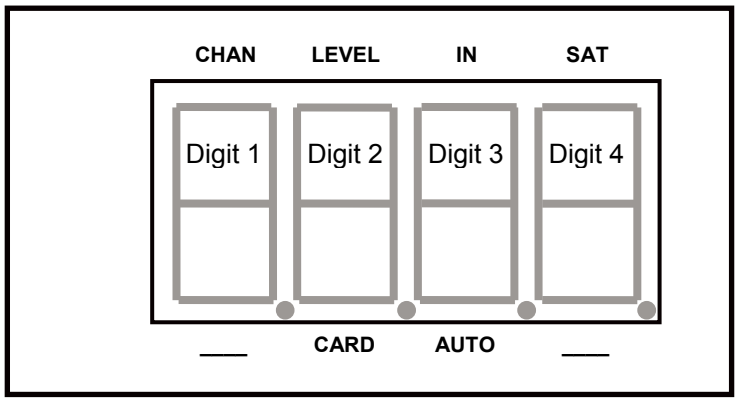
Connecting the unit

Note: UHF inputs are remotely supplied and protected against short circuits. The power available is 12 or 24V, 50mA max. The preamplifier is detected automatically; only the remote power voltage can be programmed.



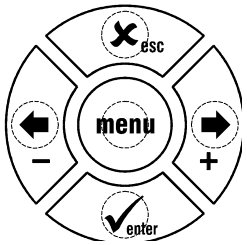
Programming the unit

A 4-digit display and a keypad are all you need to programme the unit. Follow the procedure below for configuring the various parameters.



When the unit is powered on:

- the programme mode is in standby:
- by default, the system is configured as follows:
  - UHF1 ➔ 3 UHF filters
  - UHF2 ➔ 0 UHF filters
  - UHF3 ➔ 7 UHF filters
- all the UHF filters are deactivated (display "**- -**"),
- the attenuators are at zero.



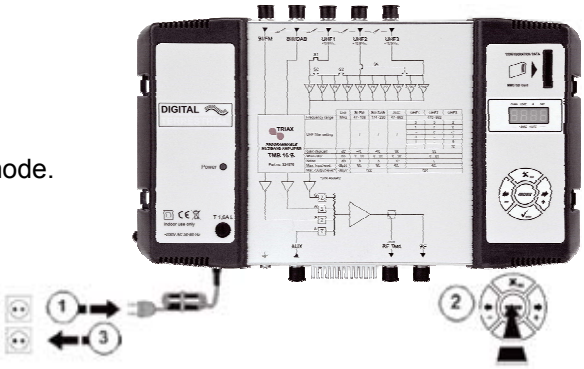
Factory reset

If necessary, to revert to factory settings, follow the procedure below:

1. Disconnect the power cable
2. Press the **esc** button and hold it
3. Connect the power cable

The unit erases all the programming parameters, including the PIN code, and switches to standby mode.

- You can release the **esc** button when the display shows "**8888**"



Date of manufacture

If necessary, to consult the unit's date of manufacture and version, press the button **- & +**. For 2 seconds, the unit displays the date of manufacture in the format; **A-SS** with **A** being the last digit of the year of manufacture, **SS** the week of manufacture.

Configuring the unit

On powering on, the unit is in standby mode, a light segments flashes across the display:

Operating principle

To access the configuration menus, press the **menu** button until the light segment is under the menu to open and press **enter**.

To summarize:

- To scroll through the menus, use the **menu** button.
- To enter a menu, press **enter**.
- To exit a menu, press the **menu** button.

Note:
If the button is not pressed for one minute, the unit switches to standby mode.

Menus

CHAN
Configuration of UHF filters:

- Channel
- Bandwidth (1 to 6 channels; 8 to 48 MHz)

LEVEL
Configuring of attenuators.

IN
Configuration of filter distribution on UHF1, 2 and 3 inputs.
Selection of remote power supply (12 or 24 V_{DC}).

AUTO
Use of the AGC.
Automatic alignment of UHF programmes.

CARD
Reading and saving of configurations
Activation and configuration of the PIN code.

SAT
Configuring of IF attenuators.
9 dB equalization ON/OFF
Selection of remote power supply (0, 13 or 17 V_{DC}).
Selection 22 kHz (ON/OFF).

CHAN Menu
TMB units have 6 or 10 configurable UHF filters. The UHF filters are distributed over the three inputs UHF1, UHF2, UHF3 as shown below.

TMB 10A

Input	UHF1	UHF2	UHF3
Number of filters per UHF input	**4**	**2**	**-**
	3	**3**	**-**
	1	**5**	**-**
	-	**6**	**-**

TMB 10B & S

Input	UHF1	UHF2	UHF3
Number of filters per UHF input	**3**	**5**	**2**
	1	**7**	**2**
	-	**8**	**2**
	3	**-**	**7**
	1	**-**	**9**
	-	**-**	**10**

Each UHF filter can be configured for a bandwidth of 8 to 48 MHz (1 to 6 channels).

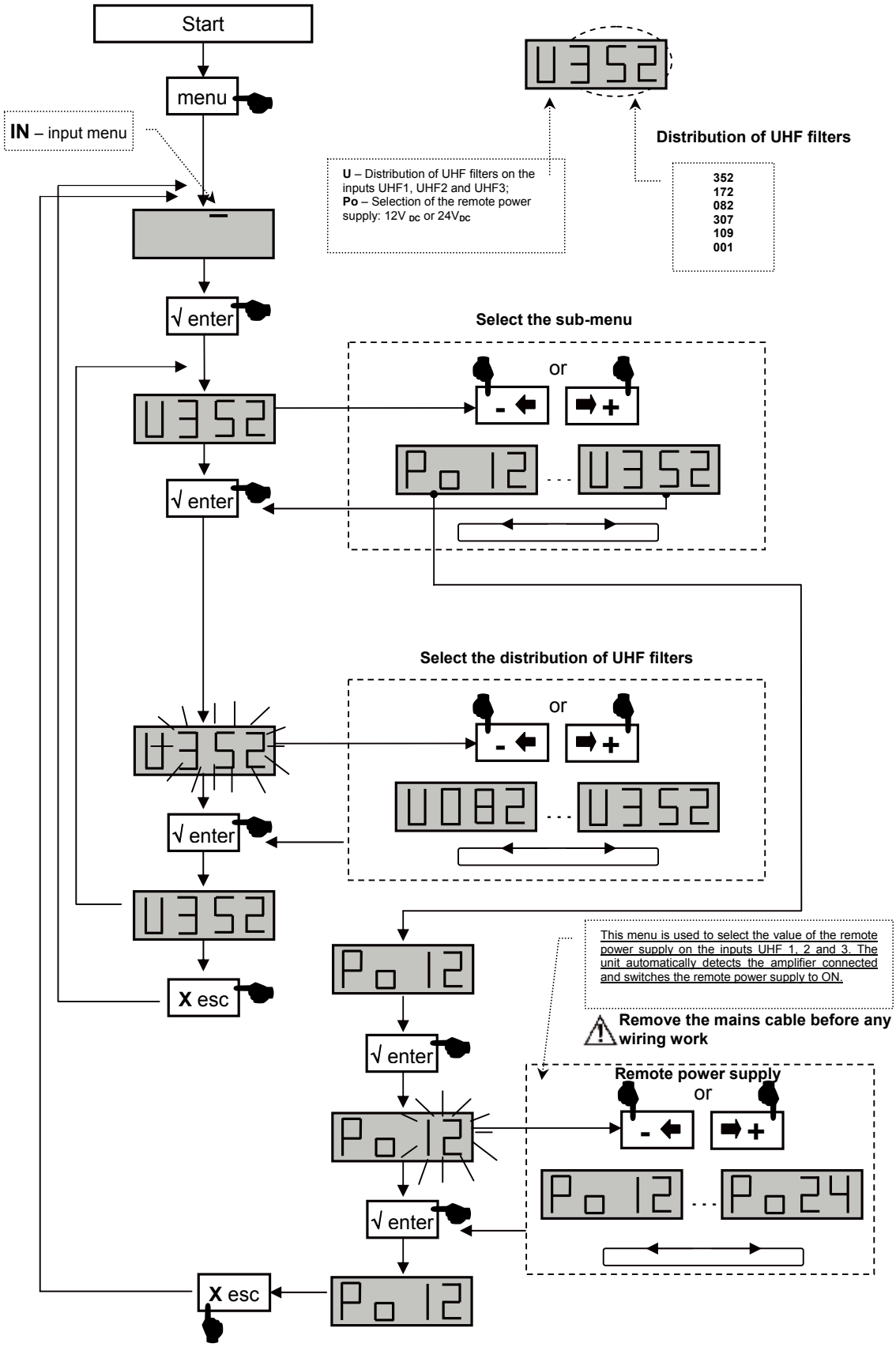
Distribution of UHF filters

Go to the menu **IN** by placing the light segment under the **IN** mark and press **enter**.

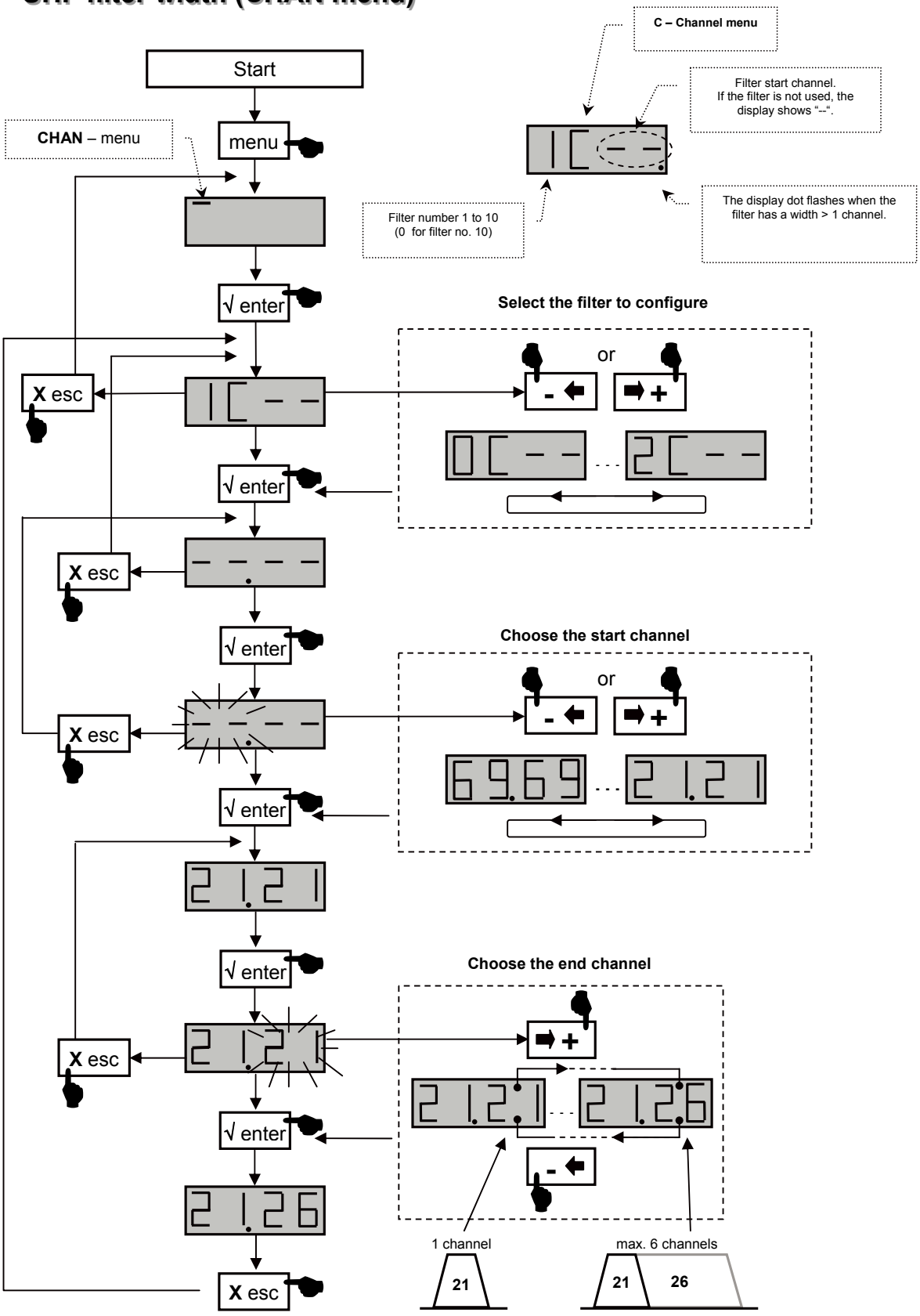
- Press **enter** again to change the configuration of the UHF inputs (part of the display flashes)
- Press the buttons **+** or **-** to select the distribution of the filters over the UHF inputs.

Notes:

Each UHF filter can be deactivated. Just configure the filter in question to the value – in the **"*CHAN*"** menu.

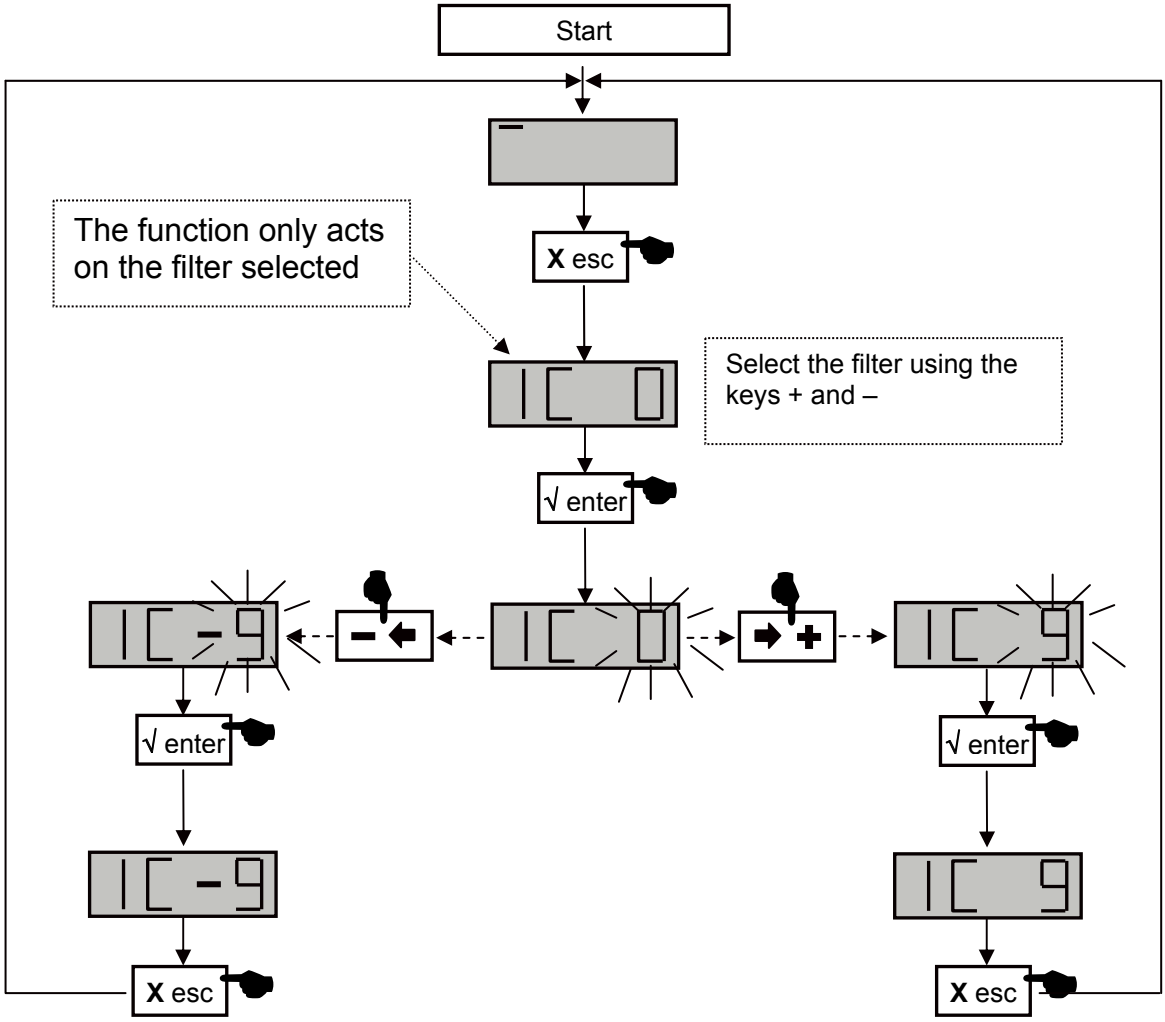

Start
menu
IN – input menu
U – Distribution of UHF filters on the inputs UHF1, UHF2 and UHF3;
Po – Selection of the remote power supply: 12V DC or 24VDC
U352
Distribution of UHF filters
352
172
082
307
109
001
√ enter
Select the sub-menu
or
Po 12
U352
Select the distribution of UHF filters
U082
X esc
This menu is used to select the value of the remote power supply on the inputs UHF 1, 2 and 3. The unit automatically detects the amplifier connected and switches the remote power supply to ON.
Remove the mains cable before any wiring work
Remote power supply
Po 24

UHF filter width (CHAN menu)



Fine tuning

This function is used to offset the frequency of the filter concerned, to adjust the filters according to the characteristics of the signals received (offset, adjacent channels, etc.).



Check the offset on your measurement apparatus.

Setting the levels.

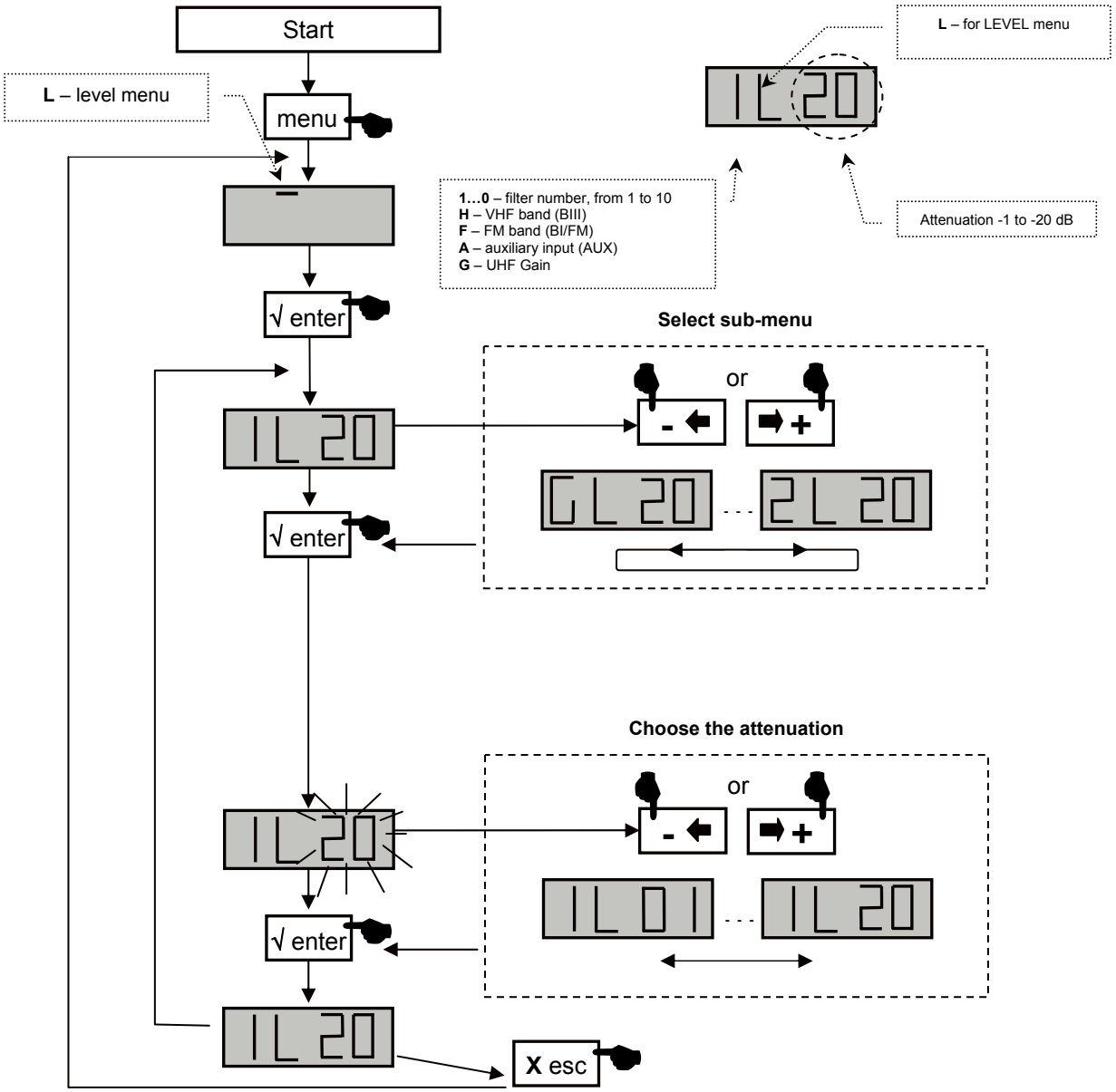
There are three types of level setting:

- "Manual" setting of output levels (**LEVEL** menu)
- automatic alignment of UHF filter output levels to a value entered by the user. (**Auto** menu, sub-menu **LEU**)
- automatic UHF gain control (**Auto** menu, sub-menu **AGC**)

Configuring the attenuators (LEVEL menu)

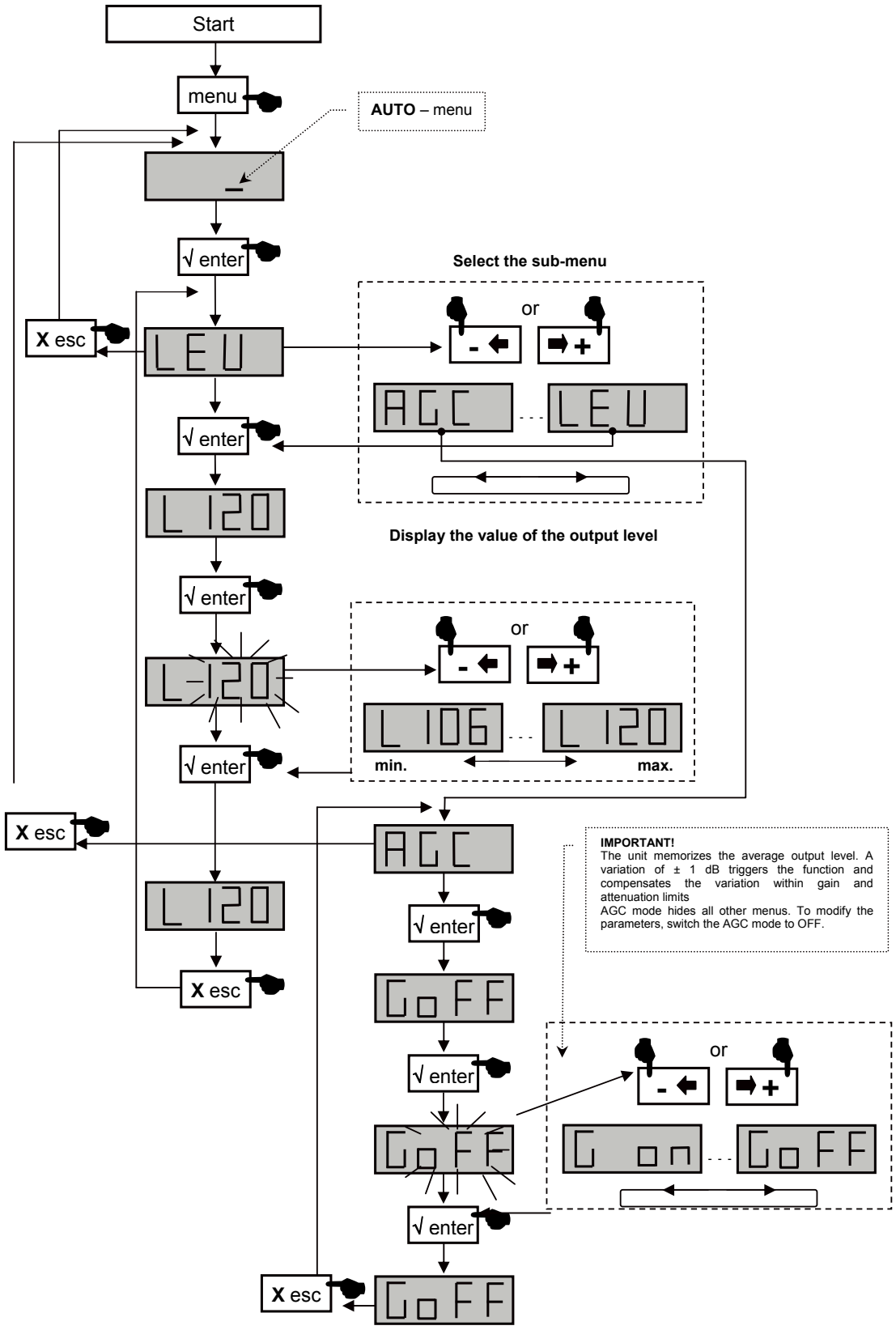
Go to the **LEVEL** menu by placing the light segment under the **LEVEL** mark and press **enter**.

- Press the buttons **+** or **-** to select the channel to configure.
- Confirm by pressing **enter**
- When the display flashes, you can configure the attenuation (20 indicates attenuation 0; 1 indicates max attenuation)
- Confirm by pressing **enter**



Automatic UHF gain control Auto menu

Note: Setting of the levels BI-II / BIII / AUX is not automatic.



CARD Menu

TMB units have an SD/MMC interface to save or read configurations and for updating the product.

This menu includes 4 sub-menus:

- **APL** updating of the firmware

When the card contains the update file (tm_tmb10.tlp), and the enter key is pressed; the update occurs automatically and the display shows "boot" during the whole operation.

- **EHP** data memorization

Select the sub-menu and choose a filename. The display flashes when the file already exists. By pressing the enter key, it is “overwritten".

- **InP** read the configuration files

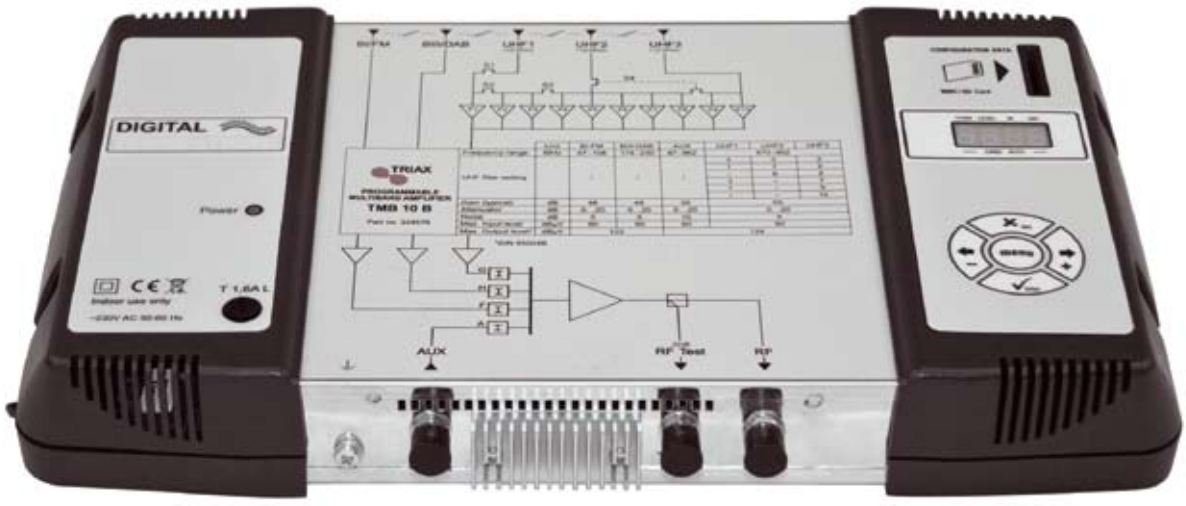
Select the sub-menu and display the name of the file to read. When the key is pressed, reading starts; the display shows "Good" when the procedure is complete.

- **PIN** activation and configuration of the PIN code

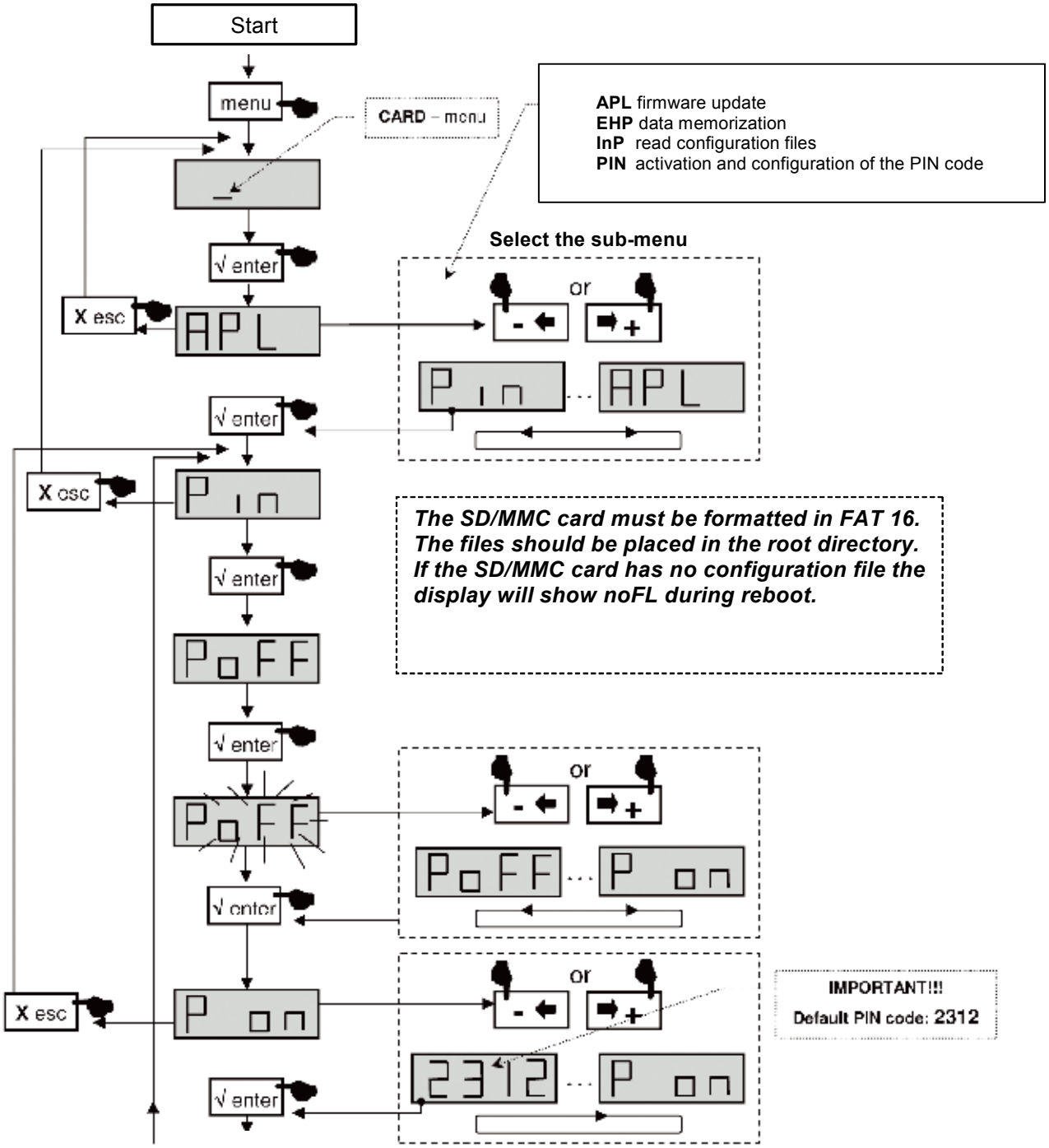
When this function is active, the PIN code is requested to access the menus (display your PIN code using the keypad and confirm by pressing enter). If no key is pressed for 30 seconds, the unit switches to standby mode and the PIN code must be entered again to access the menus.

Important.

- When no SD card is inserted in the unit, the display indicates Err when one of the menus APL, EHP or InP is used.
- The SD/MMC card must be formatted in FAT16. The files should be placed in the root directory.
- The configuration files are names specifically according to the model number (S00x for TMB10S, B00x for TMB10B, A00x for TMB10A).
- The default PIN code is 2312.



CARD Menu



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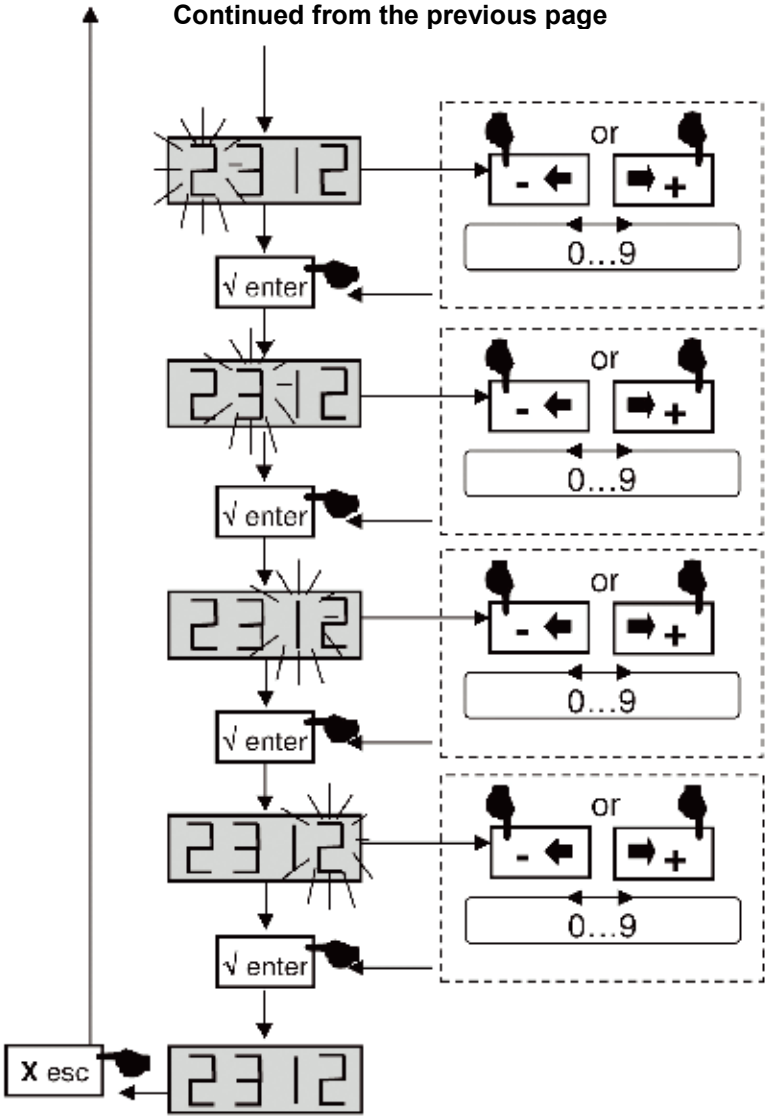
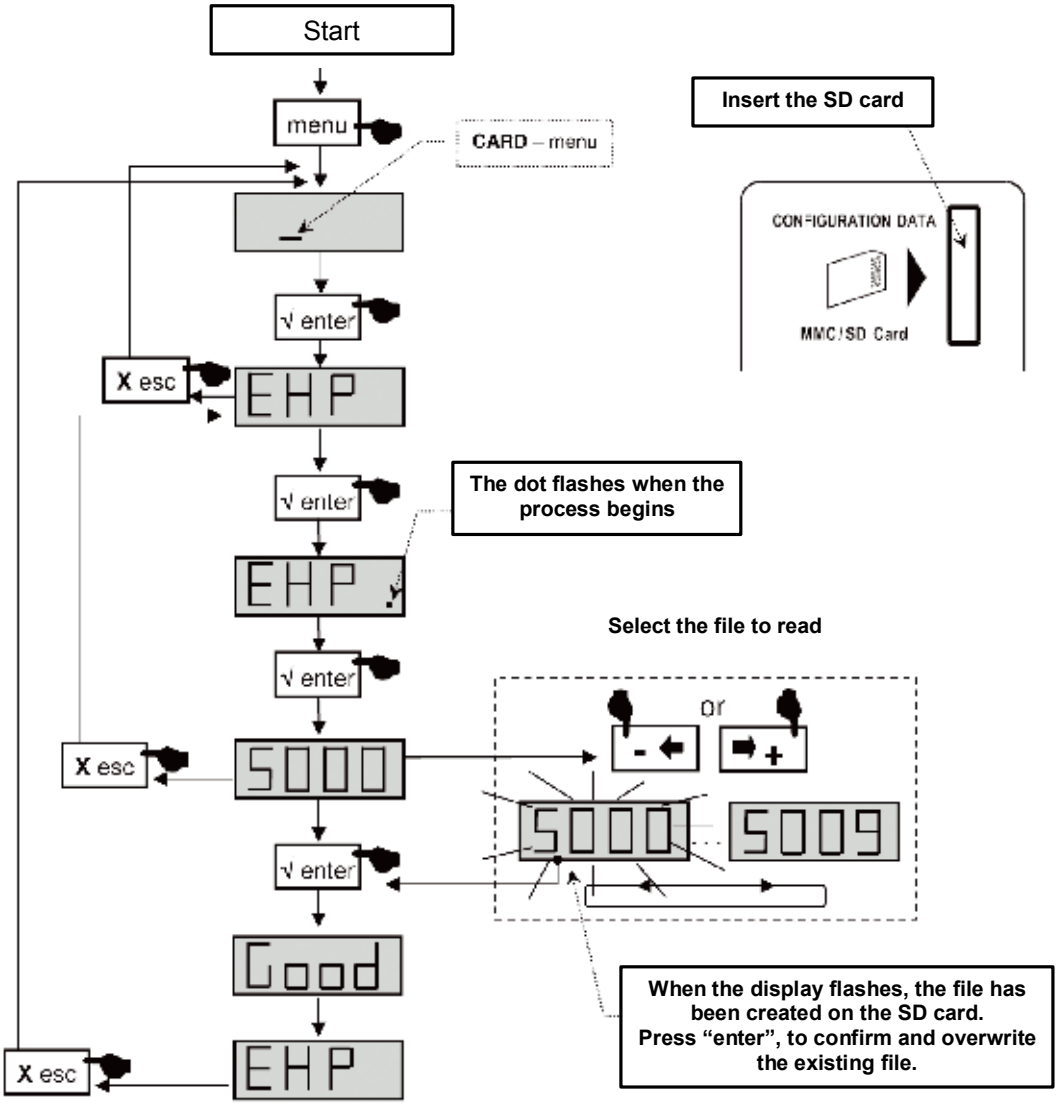
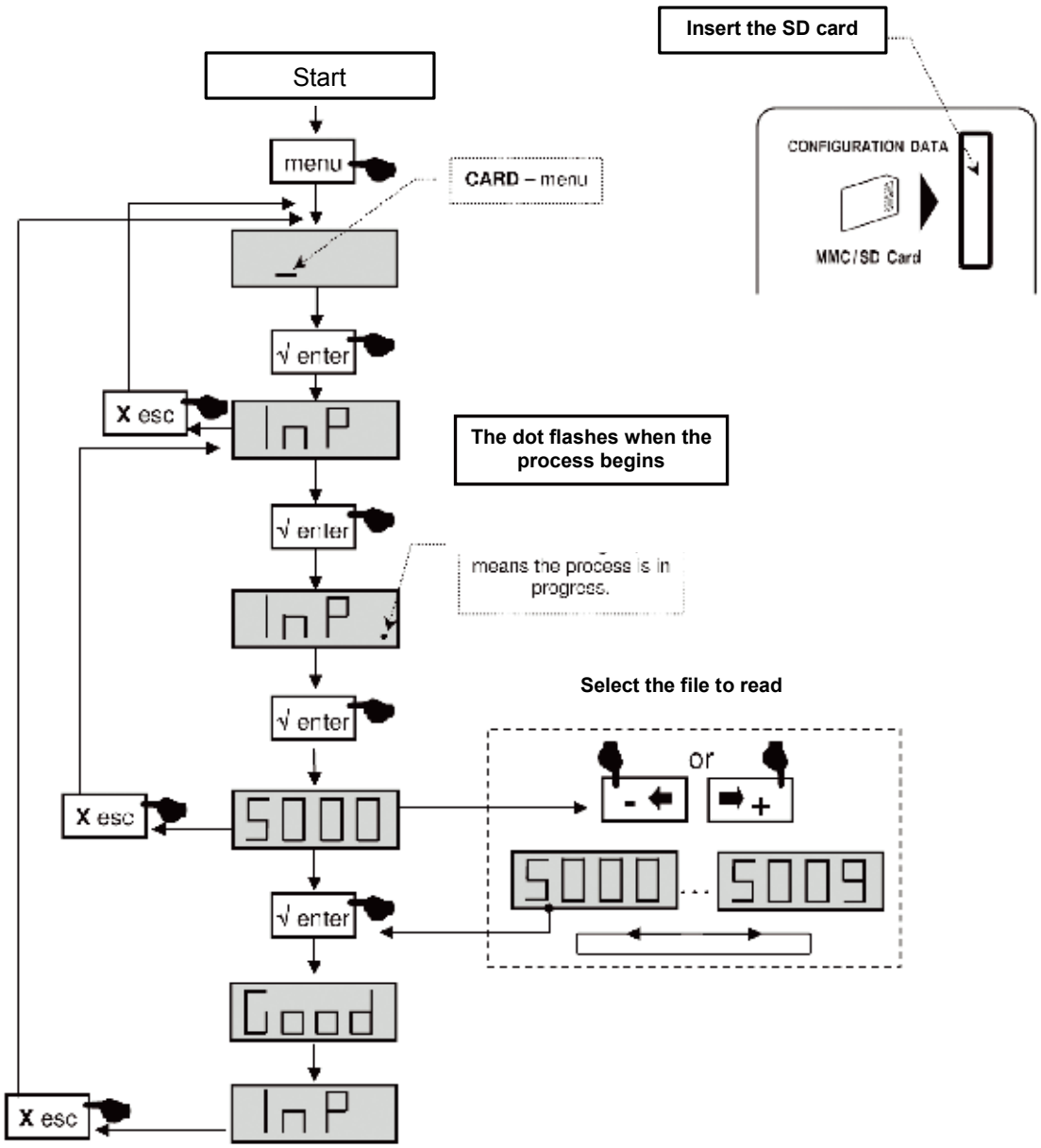


EHP Export Menu

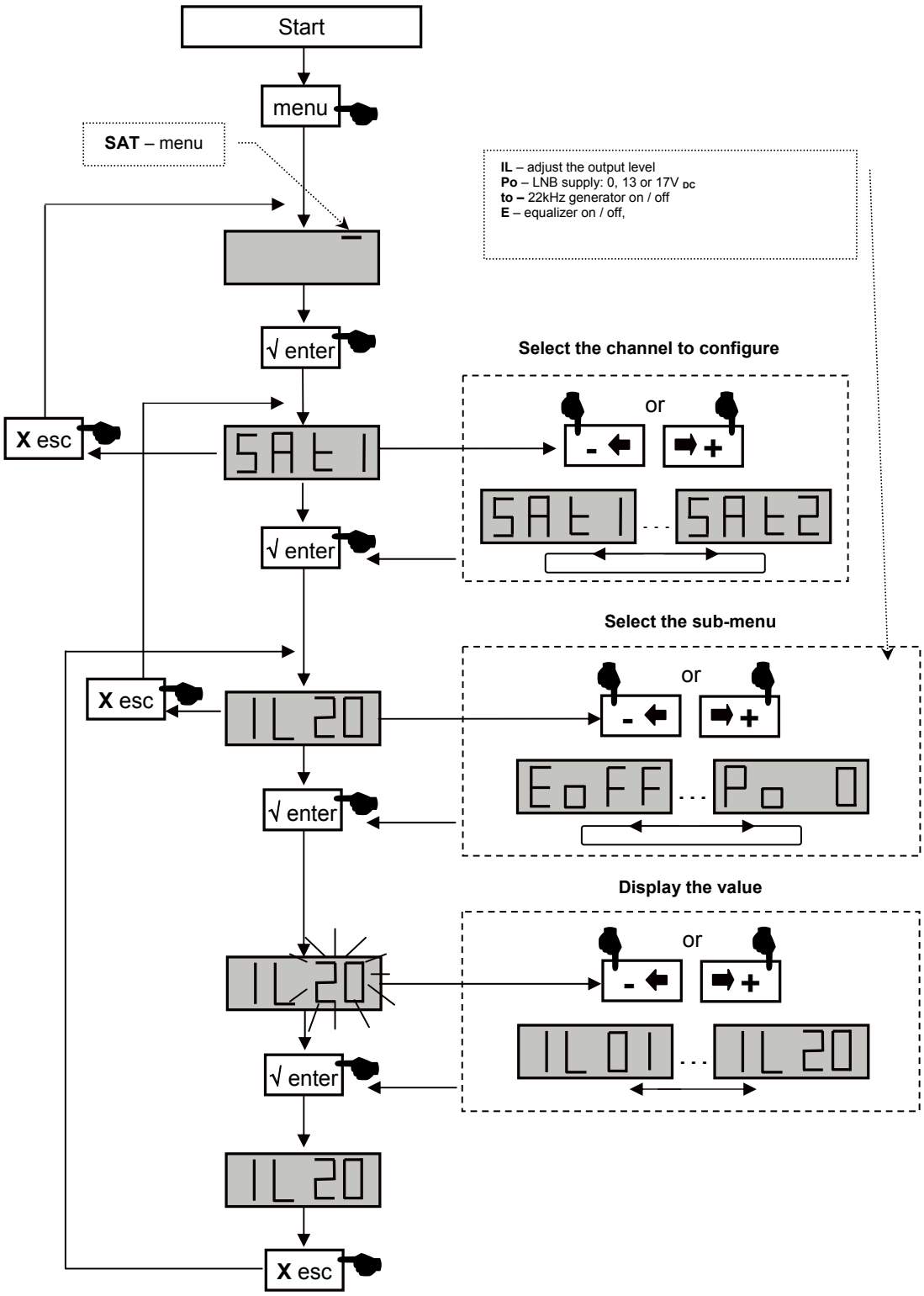


InP Import
Menu



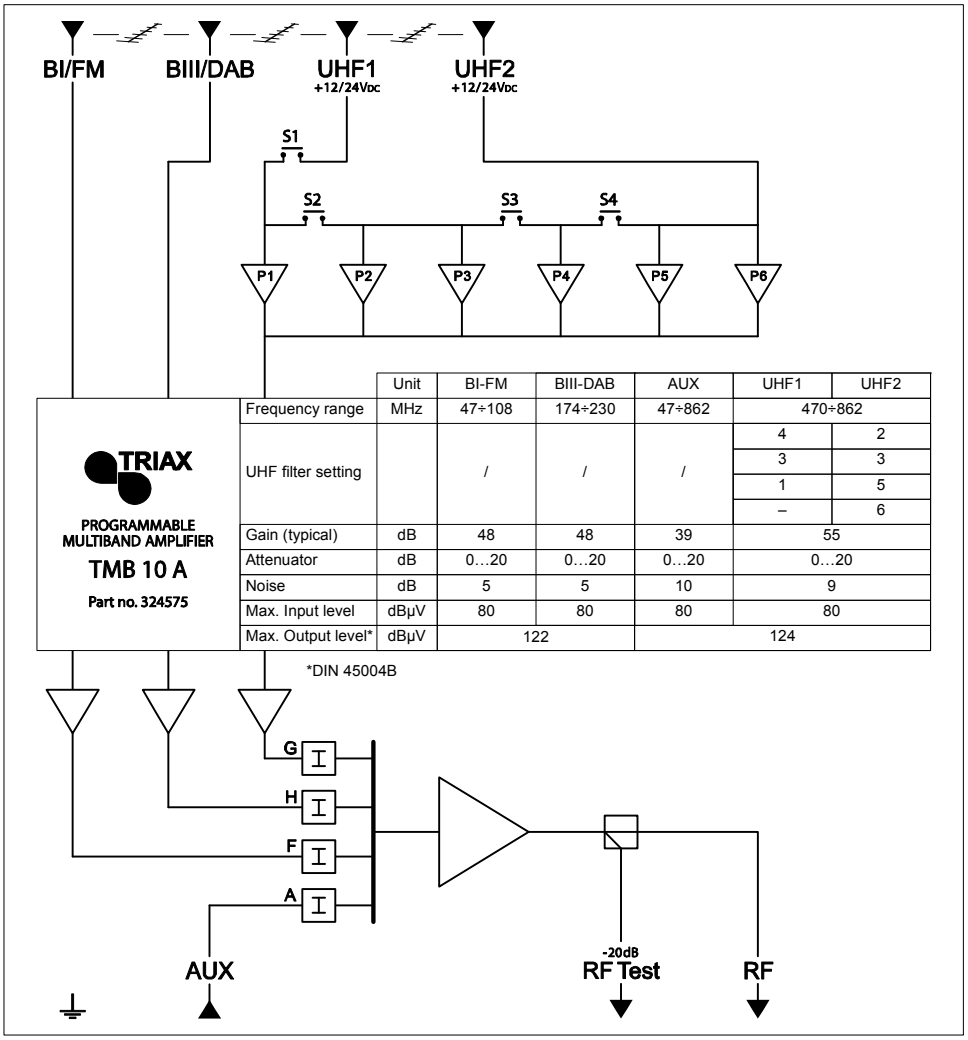
SAT Menu

- TMB 10S models have two IF amplification channels. The Sat menu is used to configure the remote power supply of the LNB (OFF / 13 /17 V_{DC}), to activate the 22kHz generator and the 9dB equalizer.



Diagrams

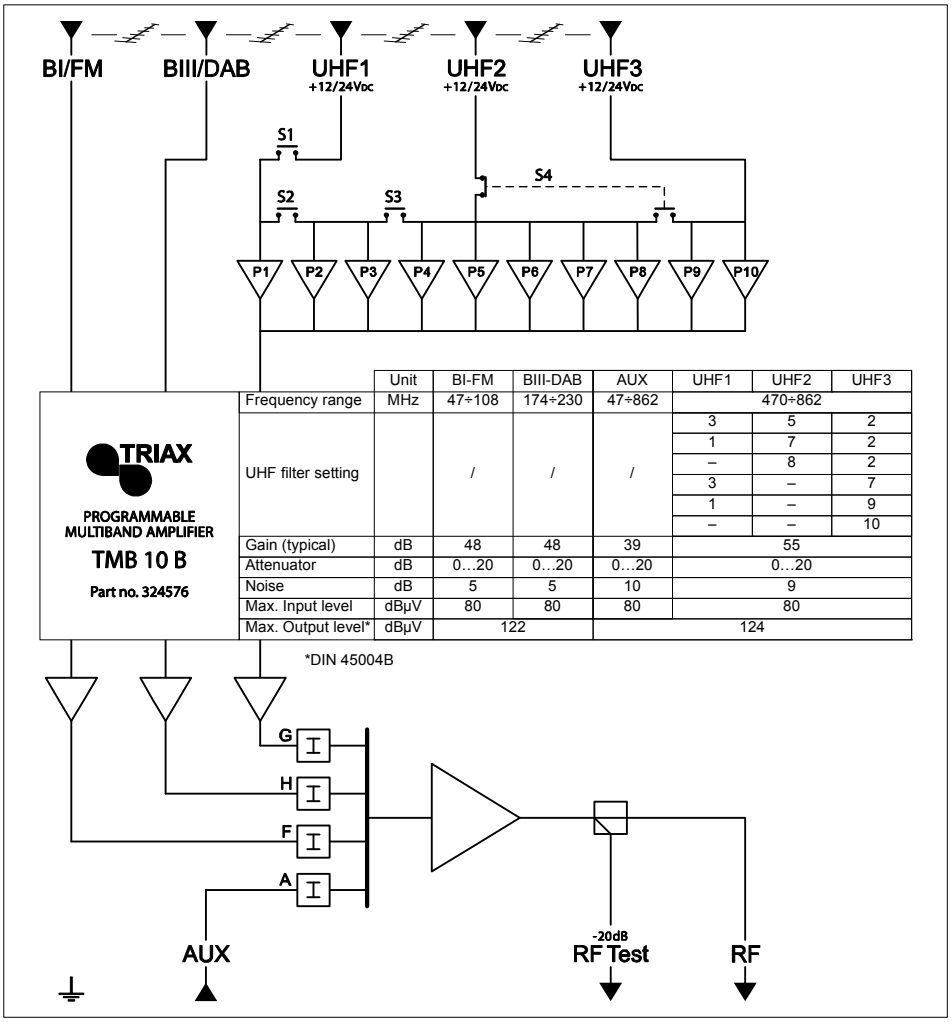
Diagram TMB-10A



	Unit	BI-FM	BIII-DAB	AUX	UHF1	UHF2
Frequency range	MHz	47÷108	174÷230	47÷862	470÷862	
UHF filter setting		/	/	/	4	2
					3	3
					1	5
					–	6
Gain (typical)	dB	48	48	39	55	
Attenuator	dB	0…20	0…20	0…20	0…20	
Noise	dB	5	5	10	9	
Max. Input level	dBµV	80	80	80	80	
Max. Output level*	dBµV	122		124		

*DIN 45004B

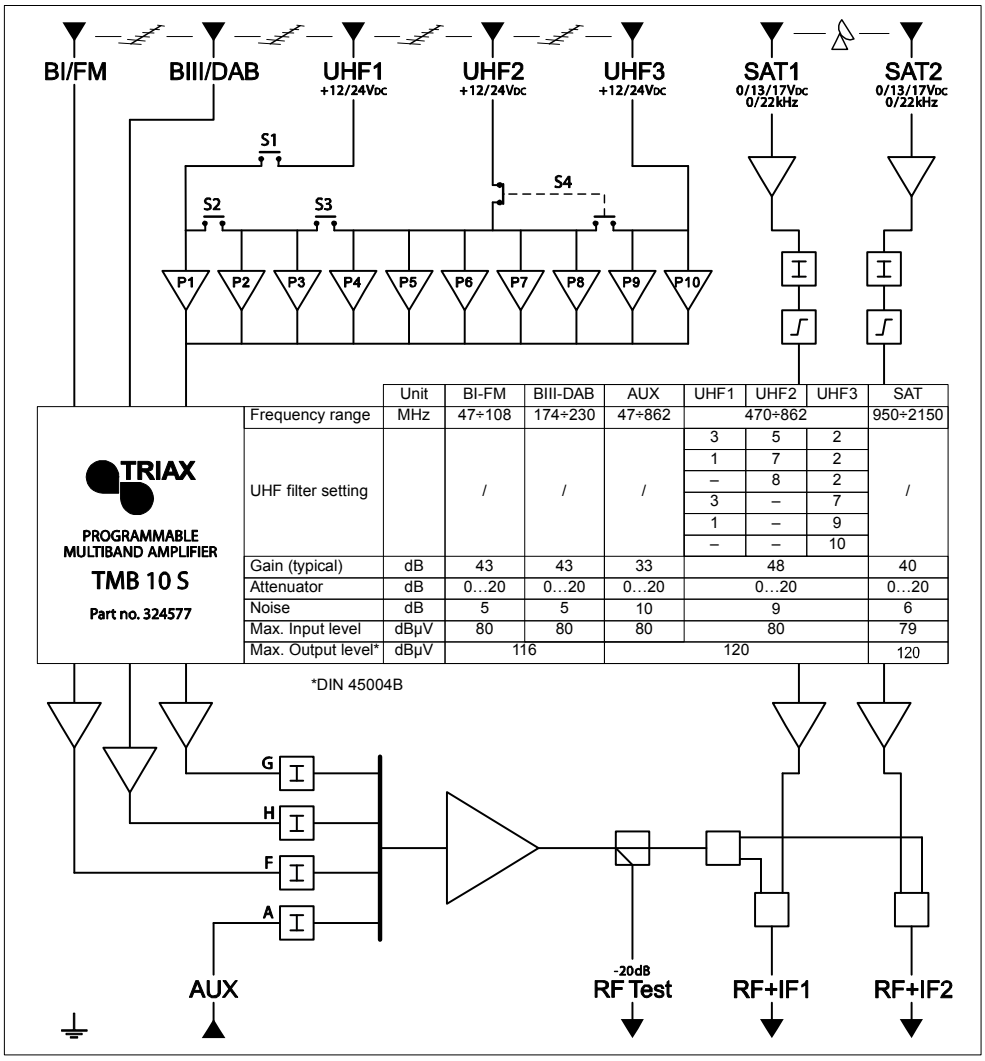
Diagram TMB-10B



	Unit	BI-FM	BIII-DAB	AUX	UHF1	UHF2	UHF3
Frequency range	MHz	47÷108	174÷230	47÷862	470÷862		
UHF filter setting		/	/	/	3	5	2
					1	7	2
					–	8	2
					3	–	7
					1	–	9
					–	–	10
Gain (typical)	dB	48	48	39	55		
Attenuator	dB	0…20	0…20	0…20	0…20		
Noise	dB	5	5	10	9		
Max. Input level	dBµV	80	80	80	80		
Max. Output level*	dBµV	122		124			

*DIN 45004B

Diagram TMB-10S

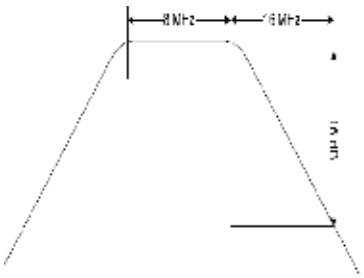


	Unit	BI-FM	BIII-DAB	AUX	UHF1	UHF2	UHF3	SAT
Frequency range	MHz	47÷108	174÷230	47÷862	470÷862			950÷2150
UHF filter setting		/	/	/	3	5	2	/
					1	7	2	
					–	8	2	
					3	–	7	
					1	–	9	
					–	–	10	
Gain (typical)	dB	43	43	33	48			40
Attenuator	dB	0…20	0…20	0…20	0…20			0…20
Noise	dB	5	5	10	9			6
Max. Input level	dBµV	80	80	80	80			79
Max. Output level*	dBµV	116		120				120

*DIN 45004B

Technical Specifications

Name Reference / part number	Units	TMB-10A 324575	TMB-10B 324576	TMB-10S 324577
Number of inputs		5	6	8
AMPLIFICATION				
Max. VHF/UHF input level	dB	80/80		
BI/FM input gain	dB	48		43
BIII/DAB input gain	dB	48		43
AUX input gain	dB	39		33
Preacc. VHF/UHF input	dB	5		
UHF 1/2/3 inputs gain	dB	55 / 55 /-	55 / 55 / 55	48 / 48 / 48
SAT 1 and SAT 2 input gain	dB			40
Preacc. SAT inputs	dB			9 (switchable)
BIII / UHF / SAT Noise factor	dB	5 / 9 / -		5 / 9 / 6
Attenuator per input	dB	0 to 20		
Global UHF output attenuator	dB	0 to 20		
UHF output adjustment by AGC	dB	-9 to +10		
Max. Output level VHF / UHF/ SAT (DIN45004B)	dBµV	122 / 124 / -		116 / 120 / 120
Test output	dB	-20		
FILTERING				
Distribution of filters			See page 7 of this manual	
Width of filtering channels	MHz	8 to 48		
selectivity of filters at +/- 16MHz	dB	16		
Adaptation of inputs	dB	>10		
Adaptation of outputs	dB	>10		
POWER SUPPLY				
Voltage	VAC	230		
Power consumption at 230VAC	VA	35		
Remote supply UHF1,2 or 3	VDC/mA	12 or 24 /55		
Equipped inputs		UHF 1 and 2	UHF 1, 2 and 3	
LNB supply	VDC/mA			0,13 or 17 /300
22kHz generator				ON / OFF
SAT inputs equipped				SAT 1 and 2
Test output	dB	-20		
Operating temperature	ºC	-5 to +50		
MECHANICS				
Input/output connectors		"F" female		
Dimensions (H x W x D)	mm	225 x 360 x 50		



Filter data.

GB

	UHF1 1 or 3 filters	UHF2 5, 7 or 8 filters	UHF3 2, 7, 9 or 10	Filter width	Levels input	Levels output	Levels Test
BI - BII				47 to 108 MHz			
BIII				174 to 240 MHz			
VHF-UHF				47 to 240 & 470 to 862 MHz			
Filter 1				(1 to 6 channels) 8 to 48 MHz			
Filter 2				(1 to 6 channels) 8 to 48 MHz			
Filter 3				(1 to 6 channels) 8 to 48 MHz			
Filter 4				(1 to 6 channels) 8 to 48 MHz			
Filter 5				(1 to 6 channels) 8 to 48 MHz			
Filter 6				(1 to 6 channels) 8 to 48 MHz			
Filter 7				(1 to 6 channels) 8 to 48 MHz			
Filter 8				(1 to 6 channels) 8 to 48 MHz			
Filter 9				(1 to 6 channels) 8 to 48 MHz			
Filter 10							

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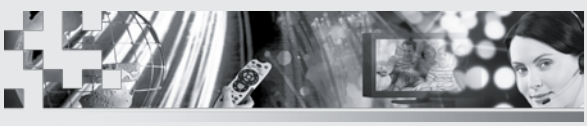
891392A 03-2008

DECLARATION OF CONFORMITY

TRIAX confirms that the product conforms to relevant EEC harmonized standards and consequently can carry CE-mark.

Relevant harmonized standards:
EN 50083 and EN 60065

This document is only valid with the signature of the person responsible for CE-marking by TRIAX



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